One Year Countdown to Opening

Discover
The efforts of an internationally renowned group of research scientists have vaulted UC Irvine into the top echelons of U.S. institutions receiving National Institutes of Health grants for vision research.

Teach
GHEI is leading the country in the ophthalmic education in medical school, our residents are accepting the most competitive fellowships in the country, and graduating fellows are joining the academic arena and becoming the leaders of tomorrow in eye care.

Heal
The range and depth of clinical and surgical expertise among faculty members, many of whom regularly appear on the list of the nation’s “Best Doctors,” enable the institute to offer the most advanced treatment in eye care.
Discover

Basic and Translation Research Expands

A world class team of basic and clinical researchers at the GHEI are working on ground-breaking advances in various areas of ophthalmology. A few of the exciting projects underway:

Dr. Donald Brown is using state of the art imaging to define the mechanisms by which the optic nerve becomes damaged in glaucoma. Drs. Cristina Kenney and Nitin Udar are using genetics to identify crucial risk factors in the development and progression of age-related macular degeneration. Along with Dr. Baruch Kuppermann, they are identifying and testing drugs that can protect retinal cells from cell death and injury. Extensive research into the herpes virus by Drs. Steven Wechsler, Lbachir Benmohamed, Anthony Nesburn, and Dale Carpenter is leading to the development of a vaccine that will diminish the reactivation of the eye disease and corneal scarring. World renowned in corneal imaging, Dr. James Jester continues the study of corneal biomechanics, corneal collagen crosslinking, as well as utilizing high tech methods to learn about the underlying causes of dry eye and how medications might reverse the loss of the tear film secreting glands. Drs. Jester and Dongyul Chai are investigating non-linear optical cross linking of collagen as a therapeutic strategy for safely treating keratoconus and post LASIK ectasia, for which Dr. Chai received an award for best poster in the Cornea Section at the 2012 international Association for Research in Ophthalmology (ARVO) meeting. GHEI’s research has resulted in 38 publications and $3,254,304 grant support from other private foundations and National Institutes of Health from July 2011 to June 2012.

Retinal Regeneration Through Stem Cell Therapy

Research in the Klassen lab is directed toward the development of novel therapies for retinal degenerative diseases, including retinitis pigmentosa and age related macular degeneration. The primary approach being pursued is the transplantation of retinal progenitor cells, a stem-like cell found in the immature retina. Studies have shown that these cells are capable of replacing retinal cell types, while also preserving host cells that would otherwise die as a result of the disease process. Current efforts are directed at preclinical studies in which clinical grade human cells are grown and tested for use in trials, pending FDA approval. The work is progressing rapidly towards the clinic and has been supported by a number of sources, particularly the Lincy Foundation and the California Institute of Regenerative Medicine (CIRM).

Clinical Research Breaks in Retinal Disease

The GHEI retinal team, including Drs. Baruch Kuppermann and Stephanie Lu, are actively involved in national clinical trials for several pharmacological agents for the treatment of macular degeneration, diabetic macular edema, and vascular occlusive diseases. GHEI doctors participated in the phase III trials that led to the approval by the FDA of VEGF Trap-Eye or Aflibercept. This molecule has shown that it is equivalent to ranibizumab (Lucentis) for the treatment of wet macular degeneration, and may last longer.
Training Future Stars in Ophthalmology

GHEI at UC Irvine provides exemplary training for future eye surgeons. The residency program, headed by Dr. Jeremiah Tao, admits 3 residents each year, selected from a highly competitive pool of 300 applicants. In the program, resident trainees receive intensive and wide-ranging clinical and surgical experiences as well as opportunities to conduct meaningful research. An excellent formal didactic curriculum supplements the clinical and surgical training. Distinguished faculty members representing the full range of ophthalmology services train the nine total residents. These specialists are committed to the goals of teaching, patient care and applied research. The size of the residency program allows for extensive direct training and interaction with each faculty member. The residency program is increasingly recognized for its excellence in preparation of future eye surgeons. GHEI residents have secured top subspecialty fellowships.

James Earl, MD, PhD matched at Washington University in St. Louis, MO, for a prestigious retina fellowship.

Brian Kim, MD matched at Bascom Palmer Eye Institute, University of Miami - widely recognized as one of the top ophthalmology training institutions — for retina fellowship.

Bishoy Said, MD matched at UC San Diego into the highly competitive cornea and refractive surgery fellowship program.

Ophthalmology Training in Medical School

Medical Student Education, directed by Linda Lippa, MD, is as cutting-edge as the research and clinical efforts at the Gavin Herbert Eye Institute. As the American Academy of Ophthalmology’s education representative at the Association of American Medical Colleges, she follows the most up to date trends in general student education and brings them home. As the founding president of the Medical Student Educator section of the Association of University Professors of Ophthalmology, she coordinates nationwide collaborative development of new teaching tools. Many are piloted at UCI and have had considerable influence on curricula worldwide. She pioneered an embedded ophthalmology curriculum, in which ophthalmic applications punctuate multiple basic science and clinical courses. Students are trained and assessed on funduscopic simulators during the Family Medicine rotation.

Are you a member of your local medical society? For over 120 years OCMA has been the professional association for doctors in Orange County. Advocating for physicians and their patients, assisting with practice management needs and educating doctors on timely healthcare topics, the OCMA helps Orange County physicians navigate through an ever-changing healthcare environment. Visit http://www.ocma.org/ to learn more or contact Robert McCann, CEO/Executive Director, Orange County Medical Association (949) 398-8102 rmccann@ocma.org
Femtosecond Laser Technology for Corneal Transplantation

The invention of the femtosecond laser technology has allowed great advances in the field of corneal transplant surgery. This ultrafast laser employs near-infrared light to place numerous adjacent pulses, creating photodisruption, to cut corneal tissue with minimal collateral tissue damage. Infinite shapes of corneal cuts and dimensions can be employed to cut tissue at precise depths and positions.

This technology is now being used in a wide variety of corneal surgeries including customized trephination keratoplasty, anterior and posterior lamellar keratoplasty, tunnel creation for intrastromal ring segments, and astigmatic keratotomy.

At the Gavin Herbert Eye Institute, a recent review of our femtosecond laser enabled keratoplasty (FLEK) registry reveals over 200 cases performed as either full thickness or as deep anterior lamellar keratoplasty (DALK) for the surgical treatment of a variety of corneal pathologies. Results show an average manifest refractive astigmatism of < 3 D and average topographic astigmatism of < 4 D as early as 3 months post-operatively and remaining so throughout the 2.5-year follow-up period. In the subgroup of eyes with normal macular and optic nerve potential, full potential is reached as early as post-operative month 3. As a result, patients undergoing FLEK have a rapid visual recovery and are returning to their daily activities of living, such as driving, at a much quicker rate.

Advances in Glaucoma Management

The glaucoma department of the Gavin Herbert Eye Institute is internationally recognized as a leading center for surgical innovations. There have been several new surgical tools for the management of glaucoma that have been FDA approved in recent years, and many of them were developed here at UCI. The trabectome surgical device was invented by Dr. George Baerveldt here at the GHEI, and was approved for use in 2006. It is now being performed in dozens of countries around the world, with tens of thousands of patients treated worldwide. This treatment is minimally invasive, and has proven to be safe, with far fewer risks than traditional filtration surgery.

As glaucoma surgery continues to evolve, our surgeons are actively engaged in pushing the field forward. Dr. Sameh Mosaed is currently enrolling subjects for an FDA phase three clinical trial using a novel implant made of 100% pure gold to treat glaucoma, one of only ten sites in the United States to offer this new technology. In addition, GHEI will be one of the initial sites to implant the Glaukos iStent, just approved by the FDA.

Oculoplastics Highlight

Oculoplastic specialists at the Gavin Herbert Eye Institute treat many severe orbital and adnexal diseases. Drs. Jeremiah Tao and Swaraj Bose are leaders in the treatment of thyroid associated ophthalmopathy (TAO) and participate in cutting edge research that further characterizes the disease and improves surgical outcomes. The treatments vary based on the severity of the disease. If orbital congestion or proptosis is severe, orbital decompression surgery may be necessary. Eye misalignments can be improved with strabismus surgery and eyelid surgery can treat retraction and improve appearance.

BEFORE Orbital Decompression

AFTER Orbital Decompression
The Vision of the Gavin Herbert Eye Institute is “Advancing the global standard for innovative vision care, research, and training.” Our quarterly newsletter is one method of meeting that ambition. We want to let you know what we are doing and how we are working to achieve that vision.

The construction of the Gavin Herbert Eye Institute clinical and education building is a tangible realization of one part of that vision. We are committed to giving the highest level of care, teach tomorrow’s leaders, and partner with the community of citizens, eye technology industry, and health care professionals. Our state of the art building is a vehicle to help us in that effort.

Our research scientists in the adjacent GHEI labs in Hewitt Hall and Gross Hall are lighting the way for developing the clinical treatments of tomorrow. The clinical trials that take research from the bench to the eye lane will be performed in the GHEI clinical building. Our 3 building “eye campus” is poised to make major contributions.

All of this is possible only with the support of Orange County. Our building is being created 100% through philanthropy. We are deeply grateful to our present and future supporters as we work to close the gap in our funding.

Please follow our construction progress on our website: www.eye.uci.edu. The WebCam in the upper right corner shows our progress with a photo added every 15 minutes.

Thank you for being part of our extended family.

Cordially,

Roger F. Steinert, MD, Irving H. Leopold Professor and Chair Director, Gavin Herbert Eye Institute

Get Involved...
Building a Legacy

Contact Janice Briggs to learn more about the Gavin Herbert Eye Institute initiative and how you can be a part of the success.

Janice Briggs: 949-824-0091
e-mail: jbriggs@uci.edu
GHEI Faculty

CATARACT SURGERY
Anand Bhatt, M.D.
Marjan Farid, M.D.
Sumit (Sam) Garg, M.D.
Ronald Gaster, M.D.
Sameh Mosaed, M.D.
Roger Steinert, M.D.
Matthew Wade, M.D.

CORNEA SURGERY
Marjan Farid, M.D.
Sumit (Sam) Garg, M.D.
Ronald Gaster, M.D.
Roger Steinert, M.D.
Matthew Wade, M.D.

EYELID, ORBIT, & TEARING
Swaraj Bose, M.D.
Jeremiah Tao, M.D.

GLAUCOMA
Anand Bhatt, M.D.
Sameh Mosaed, M.D.

NEURO-OPHTHALMOLOGY
Swaraj Bose, M.D.
R. Wade Crow, M.D.

OPHTHALMIC PLASTIC & RECONSTRUCTIVE / OCULOFACIAL COSMETIC SURGERY
Jeremiah Tao, M.D.

PEDICATRIC OPHTHALMOLOGY
Robert Lingua, M.D.
Jennifer Simpson, M.D.

REFRACTIVE SURGERY
Marjan Farid, M.D.
Sumit (Sam) Garg, M.D.
Ronald Gaster, M.D.
Robert Lingua, M.D.
Roger Steinert, M.D.
Matthew Wade, M.D.

RESEARCH
Lbachir BenMohamed, Ph.D.
Donald Brown, Ph.D.
Dale Carpenter, Ph.D.
James Jester, Ph.D.
Tibor Juhasz, Ph.D.
M. Christina Kenney, M.D., Ph.D.
Henry Klassen, M.D., Ph.D.
Anthony Nesburn, M.D.
Steven Wechsler, Ph.D.

RETINA & VITREO-RETINAL SURGERY
Baruch Kuppermann, M.D., Ph.D.
Ron Kurtz, M.D.
Stephanie Lu, M.D.